Complete Summary

GUIDELINE TITLE

Hip & pelvis (acute & chronic).

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Hip & pelvis (acute & chronic). Corpus Christi (TX): Work Loss Data Institute; 2006. 142 p. [149 references]

GUIDELINE STATUS

This is the current release of the guideline.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory information has been released.

On April 7, 2005, the U.S. Food and Drug Administration (FDA) asked manufacturers of non-prescription (over the counter [OTC]) non-steroidal anti-inflammatory drugs (NSAIDs) to revise their labeling to include more specific information about potential gastrointestinal (GI) and cardiovascular (CV) risks, and information to assist consumers in the safe use of the drugs. See the FDA Web site for more information.

Subsequently, on June 15, 2005, the FDA requested that sponsors of all NSAIDs make labeling changes to their products. FDA recommended proposed labeling for both the prescription and OTC NSAIDs and a medication guide for the entire class of prescription products. See the FDA Web site for more information.

COMPLETE SUMMARY CONTENT

IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Work-related injuries of the hip and pelvis

GUIDELINE CATEGORY

Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Chiropractic
Emergency Medicine
Family Practice
Internal Medicine
Orthopedic Surgery
Physical Medicine and Rehabilitation

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Health Plans
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To offer evidence-based step-by-step decision protocols for the assessment and treatment of workers' compensation conditions

TARGET POPULATION

Workers with occupational injuries of the hip and pelvis

INTERVENTIONS AND PRACTICES CONSIDERED

The following interventions/procedures were considered and recommended as indicated in the original guideline document:

1. Acetaminophen (paracetamol)
2. Acupuncture for osteoarthritis

3. Anesthesia for surgical procedures
4. Arthroplasty (when all reasonable conservative measures have been exhausted)
5. Arthroscopy (when a surgical lesion is suspected)
6. Bed rest
7. Bone scan (radioisotope bone scanning)
8. Calcium phosphate cement when used for augmentation in unstable trochanteric fractures
9. Chiropractic treatment/manipulation
10. Closed reduction
11. Computer-aided training (as a tool in orthopedic rehabilitation)
12. Epidural analgesia for early postoperative pain relief
13. External fixation when internal fixation is not possible or practical
14. Femoral nerve block
15. Fondaparinux
16. Heparin
17. Hospital stay following hip surgery (see common hospital length of stay averages in original guideline document)
18. Hydrotherapy for treatment of osteoarthritis in the hip
19. Internal fixation
20. Non-steroidal anti-inflammatory drugs (NSAIDS) as a second line of therapy
21. Open reduction for hip fractures
22. Patient education
23. Physical therapy/occupational therapy
24. Positron emission tomography (PET)
25. Prophylaxis (antibiotic) in conjunction with hip surgery
26. Protein and energy supplementation
27. Radiography (diagnostic):
    - X-ray
    - Arthrography (for suspected labral tears)
    - Computed tomography (CT)
    - Magnetic resonance imaging (MRI)
28. Radiotherapy
29. Return to work
30. Revision total hip arthroplasty for failed hip replacement or internal fixation
31. Sacroiliac joint injections (SJI)
32. Sliding hip screw
33. Therapeutic injections
34. Tranexamic acid for reducing blood loss in total hip arthroplasty
35. Ultrasound (sonography)
36. Viscosupplementation
37. Vitamin D (for those susceptible to hip injuries)

The following interventions/procedures are under study and are not specifically recommended:

1. Sacroiliac joint debridement (SJD)
2. Traction (manual)

The following interventions/procedures were considered, but are not recommended:

1. Enoxaparin
2. Hip protectors
3. Intraarticular steroid hip injection (IASHI)
4. Sacroiliac joint fusion (Not recommended except as a last resort as indicated in the original guideline document)

MAJOR OUTCOMES CONSIDERED

- Diagnostic value of tests
- Effectiveness of treatments in relieving pain, improving stability, and restoring normal function

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ranking by quality within type of evidence:

a. High Quality
b. Medium Quality
c. Low Quality

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

Guideline developers reviewed published cost analysis.

METHOD OF GUIDELINE VALIDATION

Not stated

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Initial Diagnosis

- First visit: with Primary Care Physician MO/DO or to emergency care
- Determine cause: initial evaluation:
    - Determine the type of trauma (fall, motor vehicle accident, etc.)
    - Determine patient history and whether the problem is acute, subacute, chronic, or of insidious onset.
    - Determine the severity and specific anatomic location of the pain.
    - Assess the ability of the patient to walk and assess range of motion.
    - Search for evidence of an open or penetrating wound.
    - Determine any present medication, co-morbidities or pre-existing conditions (including pregnancy, anemia, etc.) that may affect medication or surgery.
- Initial diagnosis:
    - Traumatic (see "Fractures" or "Dislocations" below)
        - Fractures or Dislocations (see the original guideline document for ICD-9 codes for this and other diagnoses)
    - Other (see "Conservative Treatment" below)
        - Sprain or contusion
        - Laceration
        - Coccygodynia
        - Sacroiliitis
        - Hip overuse syndrome

Management in Accident & Emergency

Early assessment, in accident & emergency or on the ward, should include a formal recording of:

- Pressure sore risk
- Hydration and nutrition
- Fluid balance
- Pain
- Core body temperature using a low reading thermometer
- Continence
- Co-existing medical problems
- Mental state
- Previous mobility
- Previous functional ability
- Social circumstances

Fractures and Dislocations

Fractures

Possible Causes

Trauma (most common)

Lytic lesions (Cancerous metastasis, Paget disease, Bone cysts)

Osteoporosis

Patients admitted to accident & emergency with a suspected hip fracture should be managed as follows:

- Use soft surfaces to protect the heel and sacrum from pressure damage.
- Keep the patient warm.
- Administer pain relief to allow for regular, comfortable change of patient position.
- Instigate early radiology.
- Measure and correct any fluid and electrolyte abnormalities.

Patients should be transferred to the ward within two hours of their arrival in accident & emergency.

See "Imaging Studies" below.

Hip Fracture Classifications

Determine the anatomic locations (head, neck, intertrochanteric, trochanteric, and subtrochanteric) and note whether it is intracapsular or extracapsular. Femoral head and neck fractures are considered intracapsular, while trochanteric, intertrochanteric, and subtrochanteric fractures are considered extracapsular. Intracapsular hip fractures frequently have complicated healing.

Preoperative Care

Patients should be operated on as soon as possible (within 24 hours).

All patients undergoing hip fracture surgery should receive antibiotic prophylaxis.

Patients should have clinical and laboratory assessment of possible hypovolaemia and electrolyte balance, and deficiencies appropriately and promptly corrected.

Oxygen saturation should be checked on admission. Supplementary oxygen should be administered to all patients with hypoxemia.

Anaesthetic Management

Regional anesthesia is recommended for patients undergoing hip fracture repair, providing there are no specific indications for general anesthesia or contraindications to regional anesthesia.

Surgical Management

Most undisplaced intracapsular hip fractures that are treated surgically should have internal fixation, except in the very elderly, when hemiarthroplasty may be considered.

Extracapsular hip fractures should all be treated surgically unless there are medical contraindications.

Femoral Head Fractures

Type 1 (single fragment fractures): Reduce dislocated femoral head and fracture fragment as soon as possible to avoid avascular necrosis of fracture fragment. Early orthopedic consultation is a must. Small fracture fragments may need to be removed.

Type 2 (comminuted fractures): Early orthopedic consultation for admission and arthroplasty is recommended.

Femoral Neck Fractures

Type 1 (stress fractures or incomplete fractures): Some practitioners handle these fractures nonoperatively with initial immobilization in selected patients, while others prefer operative treatment in all patients.

Types 2, 3, and 4 (impacted fractures, partially displaced fractures, completely displaced or comminuted fractures): Management usually includes internal fixation or arthroplasty; however selected cases of impacted fracture can be treated conservatively. Early orthopedic consultation is recommended.

Intertrochanteric Fractures

Note potential for significant blood loss. Intravenous (IV) fluid resuscitation may be necessary.

Stable and unstable fractures usually are treated with open reduction and internal fixation unless patient is not an operative candidate for other reasons.

Early orthopedic consultation is recommended.

Trochanteric Fractures

Type 1 (nondisplaced fractures): Management is most often conservative, and orthopedic consultation is recommended.

Type 2 (displaced fracture): These usually are treated with reduction and internal fixation, except in older or debilitated patients in whom conservative treatment is appropriate.

Subtrochanteric Fractures

Significant hemorrhage is common, and IV fluid resuscitation is frequently necessary.

Emergency department (ED) application of traction or traction splint is necessary.

Consult orthopedic surgeon for admission and open reduction with internal fixation for most patients.

Dislocations

Possible Causes:

Trauma (most common)

Congenital disorder

A hip dislocation requires immediate pain management, full medical screening examination, and reduction of the dislocation within 6 to 12 hours. The incidence of subsequent avascular necrosis (AVN) of the femoral head is a time-dependent phenomenon, one most likely to occur if relocation is delayed beyond 6 hours.

See "Imaging Studies" below.

Determine type of dislocation:

Anterior Hip Dislocation

Anterior dislocation of the hip occurs from a direct blow to the posterior aspect of the hip or, more commonly, from a force applied to an abducted leg that levers the hip anteriorly out of the acetabulum. Because of the mechanism of force causing this dislocation, the patient should also be evaluated for femur fractures, ligamentous stability, and pelvic fractures.

Central Hip Dislocation

Central dislocations occur when a direct impact to the lateral aspect of the hip forces the hip centrally through the acetabulum into the pelvis. This is a fracture-dislocation.

Posterior Hip Dislocation (90% of all hip dislocations)

Posterior dislocations occur when the knee and hip are flexed and a posterior force is applied at the knee. Conduct a full medical screening, including examination of the knee, foot and ankle joints.

Closed reduction is recommended for hip dislocation if possible.

Indications for open reduction include:

- Irreducible dislocation (approximately 10% of all dislocations)
- Persistent instability of the joint following reduction (e.g., fracture-dislocation of the posterior acetabulum)
- Fracture of the femoral head or shaft
- Neurovascular deficits that occur after closed reduction

Imaging Studies for Fractures and Dislocations

Plain Radiography

- Plain radiographs of the pelvis should routinely be obtained in patients with a severe mechanism of injury, such as a motor vehicle accident (MVA) or fall from a substantial height. Pelvic fractures may occur in as many as 10% of patients.

Computed Tomography (CT)

- CT scan of the hip is accurate in delineating the extent and nature of acetabular and hip fractures and dislocations.
- If the patient's condition is sufficiently stable and if surgical repair is contemplated, CT scans provide essential information for the orthopedist.
- The severity of acetabular fractures tends to be underestimated on plain radiographs, which are therefore less useful than CT scans in this situation.

Magnetic Resonance Imaging (MRI)

- MRI of the hip is usually impractical in the initial evaluation of a trauma patient. It is, however, the best imaging modality in detecting and assessing AVN of the hip and in detecting nondisplaced stress fractures of the femoral neck.
- MRI is also useful in the diagnosis of bone tumors, osteomyelitis, osteoarthritis, and congenital abnormalities of the hip joint.

Conservative Treatment

Conservative treatment applies to most cases of osteoarthritis, inflammatory arthritis, strains and sprains, tendonitis and non-displaced trochanteric fractures.*

Minor Injuries

Following MRI or ultrasonography, rest, ice, compression, and physical therapy are recommended.

Arthritic Conditions

Oral analgesics and exercise are recommended. Joint arthroplasty may be needed for end stage osteoarthritis. Following progression of inflammatory arthritis, anti-rheumatic drugs may be prescribed.

*Most non-displaced greater trochanteric fractures can be treated conservatively with protected weight bearing on the affected leg until the symptoms resolve. However, a nondisplaced greater trochanteric fracture that results from a fall needs to be evaluated to confirm that the fracture does not extend into the intertrochanteric region, which could result in displacement of the fracture. To evaluate the fracture, limited MRI or a bone scan may be useful. If the trochanteric fracture involves a large, completely displaced, and mechanically significant fragment of bone, it may require reduction and fixation.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

During the comprehensive medical literature review, preference was given to high quality systematic reviews, meta-analyses, and clinical trials over the past ten years, plus existing nationally recognized treatment guidelines from the leading specialty societies.

The type of evidence associated with each recommended or considered intervention or procedure is ranked in the guideline's annotated reference summaries.

Ranking by Type of Evidence:

1. Systematic Review/Meta-Analysis
2. Controlled Trial-Randomized (RCT) or Controlled
3. Cohort Study-Prospective or Retrospective
4. Case Control Series
5. Unstructured Review
6. Nationally Recognized Treatment Guideline (from www.guideline.gov)
7. State Treatment Guideline
8. Foreign Treatment Guideline
9. Textbook
10. Conference Proceedings/Presentation Slides

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

These guidelines unite evidence-based protocols for medical treatment with normative expectations for disability duration. They also bridge the interests of the many professional groups involved in diagnosing and treating work-related injuries of the hip and pelvis.

POTENTIAL HARMS

- One high quality review concluded that in comparison with internal fixation, arthroplasty for the treatment of a displaced femoral neck fracture significantly reduces the risk of revision surgery, but could cause greater infection rates, blood loss, and operative time and possibly an increase in early mortality rates.
- Iatrogenic femoral fractures associated with the use of dynamic screw-intramedullary nail (DSIN) devices represent a rare, but persistent, risk.
- Early or open reduction of hip fractures may not reduce the risk of non-union (NU) or avascular necrosis (AVN). There is a suggestion of a higher incidence of NU following open reduction than closed reduction.

QUALIFYING STATEMENTS

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The Treatment Protocol sections outline the most common pathways to recovery, but there is no single approach that is right for every patient and these protocols do not mention every treatment that may be recommended. See the Procedure Summaries (in the original guideline document) for complete lists of the various options that may be available, along with links to the medical evidence.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2006

GUIDELINE DEVELOPER(S)

Work Loss Data Institute - Public For Profit Organization

SOURCE(S) OF FUNDING

Not stated

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available to subscribers from the Work Loss Data Institute Web site.

Print copies: Available from the Work Loss Data Institute, 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone: 800-488-5548, 760-753-9992, Fax: 760-753-9995; www.worklossdata.com.

AVAILABILITY OF COMPANION DOCUMENTS

Background information on the development of the Official Disability Guidelines of the Work Loss Data Institute is available from the Work Loss Data Institute Web site.

PATIENT RESOURCES

None available

NGC STATUS

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